# CS SERIES

cs10 cs12 JBL

THE OFFICIAL BRAND OF LIVE MUSIC.

# BL

subwoofer owner's manual

#### **THANK YOU**

for purchasing JBL CS Series® automotive speakers. We've organized this manual to make your installation as simple and trouble-free as possible.

Please read it thoroughly before proceeding.

Remember to keep your sales receipt and this manual in a safe place so both are available for future reference.

Designed and Engineered in the USA

## INSTALLATION WARNINGS AND TIPS

### ABOUT THESE INSTRUCTIONS

Subwoofer installation often requires woodworking skills and some experience disassembling and reassembling automotive interiors.

If you lack the tools or necessary skills, have your subwoofer installed by an authorized JBL dealer.

In order that we may better serve you should you require warranty service, please note your serial number, and retain your original sales receipt

#### WARNING! LOUD MUSIC AND HEARING

Playing loud music in an automobile can permanently damage your hearing as well as hinder your ability to hear traffic. We recommend listening at low levels while driving. JBL accepts no liability for hearing loss, bodily injury or property damage resulting from use or misuse of this product.

#### **CHOOSING AN ENCLOSURE**

CS subwoofers are optimized to perform best in small, sealed, vented and prefabricated bandpass enclosures. While infinite-baffle mounting of CS subs is possible. power handling will be greatly compromised because there's no enclosed volume of air to prevent the speaker's cone from moving past its limit. For this reason, we do not recommend infinite-baffle mounting for CS subwoofers. You should choose the enclosure you will use based on the type of music you listen to, how much amplifier power you will use for the subwoofer and how much space inside the vehicle you can devote to a subwoofer enclosure.

Because a sealed enclosure provides the most control over the woofer's movement a woofer mounted in a sealed enclosure will handle more power than a woofer mounted in other enclosure type. Sealed enclosures provide more accurate sonic reproduction than other enclosure types, so they are well suited to all types of music. Sealed-enclosure construction is straightforward and there are many prefabricated sealed enclosures available. An optimum sealed enclosure is always smaller than other types of enclosures optimized for a particular speaker, so it requires the least amount of space inside the vehicle.

Vented enclosures provide better efficiency in the 40Hz - 50Hz range but this efficiency comes at the expense of sound in the lowest octave (below 40Hz) and at the expense of some control and power handling. If you are using a small amplifier, a vented box will provide more bass output from less power. Vented enclosures are also well suited to a variety of music types. Because vented enclosures require the volume of the enclosure and the size of the port to have a specific relationship with the characteristics of the woofer, the enclosure must be built exactly to the specifications provided. While there are some prefabricated vented boxes available, matching a prefabricated box to a particular woofer is difficult. If you wish to use a vented enclosure, we strongly recommend having your authorized JBL dealer build it, or at least verify that your design is correct if you wish to build it yourself. An optimum vented enclosure is always larger than the optimum sealed box for the same woofer and will require more space inside the vehicle.

Bandpass enclosures often provide the greatest output available from any amplifier/subwoofer combination, albeit at the expense of sonic accuracy. If sheer SPL (sound pressure level) is what you desire most, choose a bandpass enclosure. Because bandpass-enclosure design is tricky, using a computer and enclosure-design software is necessary. If you are an experienced installer or have some woodworking skills, you may wish to build the enclosure described in the "Specifications" chart in this manual. Fortunately, however, there are many prefabricated bandpass boxes available and they are all optimized to extract the greatest possible output from any woofer. Be aware that bandpass enclosures can be quite large and may require a lot of space inside your vehicle.



#### **SPECIFICATIONS**

	CS12	CS10
Power Handling	500W Peak, 125W RMS	400W Peak, 100W RMS
Sensitivity (2.83V, 1m)	92dB	91dB
Frequency Response	38Hz - 500Hz	38Hz - 800Hz
Mounting Depth	127mm	116mm
Cut-Out Diameter	277mm	229mm
Thiele and Small Parameters		
Nominal Impedance:	4 ohms	4 ohms
Revc	3.58 ohms	3.6 ohms
Fs	24.7Hz	29.6Hz
Vas	144 Liters	63 Liters
Qms	7.34	6.87
Qes	0.41	0.44
Qts	0.39	0.42
Mms	119g	85g
Levc	2.3mH	2mH
Sealed-Enclosure Specifications		
Enclosure Volume	35 Liters	30 Liters
Vented-Enclosure Specifications		
Enclosure Volume	50 Liters	40 Liters
Port Diameter	60mm	50mm
Port Length	130mm	160mm
Bandpass-Enclosure Specifications		
Sealed-Chamber Volume	35 Liters	30 Liters
Vented-Chamber Volume	50 Liters	40 Liters
Port Diameter	120mm	100mm
Port Length	60mm	130mm

#### **General Care**

The loudspeaker grilles may be cleaned with a damp cloth. Do not use any cleaners or solvents on the grilles or the speaker cones.

A valid serial number is required for warranty coverage. Features, specifications and appearance are subject to change without notice.

#### Declaration of Conformity

CE

We, Harman Consumer International 2, route de Tours 72500 Chateau-du-Loir France

declare in own responsibility that the products described in this owner's manual are in compliance with technical standards:

EN 55013/A14:1999 EN 55020/A14:1999

> Emmanuel Millot Harman Consumer International Chateau-du-Loir, France. 5/03

JBL Consumer Products

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